

REMARKS

Claims 46 – 105 are pending and at issue.

The office action confirms that claims 67, 74 – 77, and 81 – 105 recite allowable subject matter.

The office action rejects the reissue oath/declaration as defective.

The office action rejects various claims under 35 U.S.C. § 112, ¶1.

The office action rejects claims 46 – 66, 68 – 73, and 78 – 80 under 35 U.S.C. § 103.

Applicant respectfully traverses each of the rejections and requests their removal.

I. Status of Claims

Claims 46 – 105 remain pending and at issue.

The status of the claims is as follows:

Cancelled: Claims 1-45;

Amended: Claims 51, 53-55, 57-66, 68-71, 73, 84, 85, 89, 90, 94, 95, 99, 104, and 105;

Twice Amended: Claims 50, 52, 72, 81, 86, 91, 96, 100 and 101;

Thrice Amended: Claims 46, 47, 48, 49, 56, 67, and 76 – 78;

Four Times Amended: Claims 79 and 80; and

Previously Added: Claims 82, 83, 87, 88, 90, 92, 93, 97, 98, 102, and 103.

II. Reissue Oath/Declaration

The office action rejects the current reissue oath/declaration as defective for not identifying the error corrections currently sought in the application. Applicant will provide a supplemental reissue oath/declaration upon confirmation of the allowability of the pending claims.

III. Rejections under 35 U.S.C. § 112, ¶1

Claims 46 – 78, 80, and 81 – 105 stand rejected under 35 U.S.C. § 112, ¶1, as not complying with the enablement requirement. The claims are rejected because, per the office action, there is no disclosure of the entire genus of “non-biological material” or “opaque non-biological material,” but instead only a few enabled examples. Claim 53 is separately rejected because, per the office action, there is no disclosure of the genus of materials with two layers and laser induced breakdown substantially affecting one layer and not the other. Claims 81, 86, 91, and 96 also stand separately rejected because there is purportedly no embodiment in the disclosure with beam scanning. Applicant respectfully but strongly traverses these rejections.

The examiner levied similar rejections in the January 30, 2008 office action in co-pending application U.S. Application Serial No. 09/775,069. Applicant has tailored the remarks below in part based on the April 10, 2008 response filed in that case.

As noted in that April 10, 2008 response (*see* file wrapper for U.S. Application Serial No. 90/775,069), the office action does not question whether the application has enabled the claimed laser-induced-breakdown techniques. Applicant has sufficiently explained how to determine the condition (such as satisfactory pulse width durations) at which laser induced breakdown will occur in a material and how to create such breakdown. Applicant has described how to test both non-organic and organic materials and develop “a characteristic curve of fluence breakdown threshold F_{TH} as a function of laser pulse width specific to a material” (*see*, RE37,585 F1, Col. 4, l. 66 – Col. 5, l. 7) for determining the laser induced breakdown threshold. Applicant applies this technique to various examples in the specification, including biological examples and non-biological examples.

Despite the fact that possession and enablement have been established for the steps recited in the claims, the office action takes the position that there is “no disclosure of the entire genus of non-biological material or opaque non-biological material.”

As the examiner knows, a specification is measured based on whether it is enabled to the person skilled in the art. Further, the onus is on the examiner to establish at least a *prima facie* showing that such a person would not be able to make or use the claimed invention after reading the application. MPEP 2164. Here there is no evidence that the skilled artisan,

charged with the disclosed knowledge on affecting laser induce breakdown in some non-biological materials, would not be enabled to apply those same techniques in other non-biological materials. There has been no showing by the examiner of an expected lack of predictability across different materials, nor has there been any showing of undue experimentation. The examiner uses the term “unpredictable,” but whether the initial realization of laser induced breakdown was predictable or not, the examiner has failed to make any *prima facie* showing of unpredictability in achieving laser induced breakdown across different materials. In fact, the application provides numerous examples of different materials which each have been affected through laser induced breakdown.

Furthermore, the argument that enablement of a few species does not enable the entire genus is by itself an insufficient basis to find enablement. The Patent Office procedures instruct that as long as the specification discloses “at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim,” then enablement is established. MPEP 2164.01(b) citing *In re Fisher*, 427 F.2d 833 (CCPA 1970). To this point, the MPEP specifically instructs that the presence of “only one working example should never be the sole reason for rejecting claims as being broader than the enabling disclosure” (emphasis added). MPEP 2164.02. Enablement must be assessed with all other factors of consideration, such as the amount of direction provided in the application, the level of one of ordinary skill, and the quantity of experimentation needed to make or use the invention. *In re Wands*, 858 F.2d 731 (Fed. Cir. 1988). Enablement requires no undue experimentation. Neither trial and error (see, e.g., *Koito Mfg. v. Turnkey*, 381 F.3d 1142 (Fed. Cir. 2004)) nor the complexity of the experimentation (MPEP 2164.01) equate to undue experimentation.

*In re Curtis*¹ is distinguishable on facts.

¹ On June 27, 2008, the examiner issued an office action in co-pending U.S. Patent Application No. 09/775,069 maintaining an enablement and written description rejection and citing *In re Curtis*, 354 F.3d 1347 (Fed. Cir. 2004). The copending U.S. Patent Application No. 09/775,069 relates to different subject matter than the present application, but shares enough similarities that applicant views it as helpful to address issues raised in that copending case in this response, in the event the examiner would determine that they apply here.

In *In re Curtis*, the applicant made repeated remarks that the particular species described (a microcrystalline wax) was believed to have unique properties. The applicant distinguished the single disclosed species as unique from others, thus expressly suggesting that a genus of materials would be unpredictable vis-à-vis the lone disclosed species. It was not the presence of a single species that prevented Curtis from claiming a broader genus. But rather as the Court of Appeals for the Federal Circuit found: “the record contains considerable evidence demonstrating that MCW was in fact the only friction enhancing coating conveyed by Curtis...and that dental floss made of PTFE would not be expected to be commercially acceptable when coated with other materials.” *In re Curtis*, 69 U.S.P.Q.2d 1274, 1279 (Fed. Cir. 2004).

The instant application, in contrast, does not limit itself to a single disclosed species of non-biological or biological material. Instead, the instant application describes **how to** identify the laser induced breakdown thresholds for numerous different types of materials and **how to** use such thresholds to induce laser breakdown in those materials. Instead of describing these materials as the only ones in which laser induced breakdown can be achieved, ala *In re Curtis*, applicant has provided techniques for identifying any biological or non-biological material in which a laser induced breakdown threshold may be achieved. Further, the office action ignores the fact that at least some claims, like claim 47, do not recite the entire genus of non-biological material, but rather recite methods of affecting a class of non-biological materials “being characterized by a relationship of fluence breakdown threshold versus laser pulse width that exhibits a distinct change in slope at a characteristic pulse width” (*see, e.g.*, claim 47).

The examiner cannot fairly argue that such materials are not within the written description as filed, because they clearly were; nor can the examiner fairly argue that the claimed techniques are not enabled, because they clearly were. Applicant possessed and described how to determine if a non-biological or a biological material possessed such fluence breakdown thresholds and how to affect material changes as a result. The rejections are thus respectfully, but strongly traversed.

With respect to the specific rejection of claims 81, 86, 91 and 96, the application describes methods in which a beam is scanned at or beneath the surface of a material. The abstract specifically references methods in which a “beam is focused to a point at or beneath

the surface of a material.” The next two sentences of the abstract state that this beam “may be moved in the x, y, and z directions to produce desired features.” One of ordinary skill in the art would readily understand such descriptions as pertaining to “scanning” a laser beam “at or beneath the surface of a material.” Merely by way of example, movement in the xy-plane can be used to scan a laser beam, while movement in the z direction can be used to control the depth beneath the surface of that scanning. The written description goes on to provide some specific examples of the same. *See e.g.*, FIG. 1, the transparent material example of col. 7, and the discussion of an axis movement at column 11. Yet other examples would be known to persons skilled in the art upon reading the application.

The specific rejection of claim 53 is traversed for similar reasons, namely that the office action provides no *prima facie* rationale for concluding that the enabled examples (e.g., materials in which there is beneath the surface LIB or ablation) would not extend to other examples.

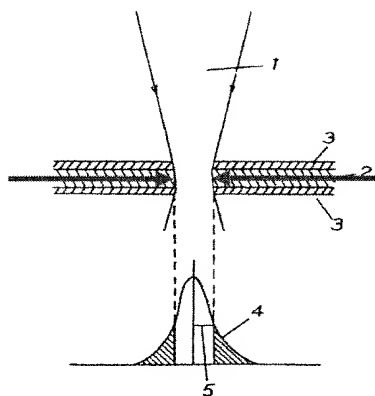
In light of the foregoing, the § 112, ¶1 rejections are traversed.

IV. Rejections under 35 U.S.C. § 103

As an initial matter, the office action is improper under MPEP 707.07 and should be withdrawn, corrected, and resubmitted if the rejections are to be maintained. The January 30, 2008 office action repeats verbatim the same prior art rejections levied in the May 30, 2007 office action, but does not address the specific remarks and traversals filed in applicant’s September 25, 2007 response. MPEP 707.07(f) states that where an applicant “traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant’s argument and answer the substance of it.” The examiner has not acknowledge his consideration of the remarks made in the September 25, 2007 response, nor has the examiner responded to the substance of those remarks. As the record stands, it appears that the examiner has not considered applicant’s response whatsoever.

In that prior response, applicant stated, and still maintains, that Nishikawa et al. fails to teach configuring a beam such that a first area within a spot size exceeds a breakdown threshold while a second area also within that spot size does not. Figure 1 in Nishikawa et al. shows that the film is cut by the laser over the entire beam waist of the focused laser spot

size, which is contrary to the rejected claims directed to techniques in which breakdown is achieved over only a portion of the spot size.



The laser beam 1 is focused to focal point beam waist in film 2 (see arrows). That beam waist defines the region of melting in the thin film. The dashed lines extending downward from the beam waist exactly overlap with the spot size of the Gaussian profile, defined by that portion of the Gaussian profile above the value 5. This beam waist, being at the focal point of the beam 1, reflects the spot size in the Nishikawa et al. reference, meaning that the spot size does not extend into the tapered portions 4 of the Gaussian profile, as would be understood. Thus, this drawing from Nishikawa et al. clearly shows that Nishikawa et al. does not disclose the recited subject matter, but only teaches cutting a thin film over the entire spot size. The operating regions are different; the results are different; and the advantages of the present techniques are completely unrealized.

Application No. 09/775,106
Amendment dated July 30, 2008
Reply to Office Action of January 30, 2008

Docket No.: 30275/939A

This case is in condition for immediate allowance and confirmation of the same is respectfully requested.

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Respectfully submitted,

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